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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/550,529	07/12/2006	Jun Hirano	L8638.05108	4475

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EXAMINER	
OBAYANJU, OMONIYI	

ART UNIT	PAPER NUMBER
2617	

MAIL DATE	DELIVERY MODE
08/31/2009	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/550,529	HIRANO ET AL.	
	Examiner	Art Unit	
	OMONIYI A. OBAYANJU	2617	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *13 July 2009*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *31,32,35-41 and 44-49* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *31,32,35-41 and 44-49* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *22 September 2005* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date *07/13/2009, 04/21/02008, 12/12/2007, 09/22/2005*.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Continued Examination Under 37 CFR 1.114

A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 07/13/2009 has been entered.

Response to Arguments

Applicant's arguments with respect to claims 32-49 have been considered but are moot in view of the new ground(s) of rejection.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

Claims 32-49 are rejected under 35 U.S.C. 103(a) as being unpatentable over Haartsen (US Publication No. 20020126692) in view of Montano (US Patent No. 7280518) and further in view of Cain (US Publication No. 20040028018).

As **to claims 32 and 41,** Haartsen teaches a radio communication method for a radio communication system, the radio communication system being composed of a plurality of radio communication devices (abs) in such a manner that radio communication devices other than a given radio communication device exist within a communication area of the given radio communication device (pg. 2, pp0017, lines 1-10), and a time slot setting step of setting a first time slot which is different (pg. 2, pp0015, lines 4-7) from a second time slot as a time slot which can be used at higher priority by the given radio communication device in order to manage an accommodated radio communication terminal, the second time slot being any one of time slots which can be used at higher priority by the other radio communication devices (pg. 2, pp0017, lines 16-18) and a contention resolution (pg. 6, pp0052, lines 1-5) step of performing contention resolution processing when the first time slot and the second time slot overlap each other (pg. 4, pp0042, lines 1-4) wherein: in the contention resolution step, the given radio communication device exchanges identification information with the radio communication device which can use the second time slot at higher priority (pg. 2, pp0015, lines 1-7), the given radio communication device determines whether or not setting of time slots (reserved) should be changed based on a comparison result of the identification information of the given (master) radio communication device with the identification information of the radio communication device (slave) which can use the second time slot at higher priority (pg. 2, pp0017, and

pp0048, lines 1-10). However, Haartsen fails to teach each of the plurality of radio communication devices being able to accommodate and manage a radio communication terminal, and the radio communication method being performed by the given radio communication device, comprising: a detection step of detecting existence of other radio communication devices within the communication area of the given radio communication device; a time slot division step of dividing a communication period on a wireless medium into a plurality of time slots based on a number of other radio communication devices detected.

But Montano teaches each of the plurality of radio communication devices being able to accommodate and manage a radio communication terminal (each non-coordinating devices performing the coordinator function, col. 2, lines 50-55), and the radio communication method being performed by the given (coordinator) radio communication device, comprising (fig. 1, and col. 3, lines 10-40): a detection step of detecting existence of other radio communication devices within the communication area of the given radio communication device (fig. 3, #350, and col. 2, lines 65-67); a time slot division step of dividing (shared) a communication period on a wireless medium into a plurality of time slots based on a number of other radio communication devices detected (col. 16, lines 1-5). Thus it would have been obvious to one of ordinary skill in the art at time the invention was made to combine the teachings of Haartsen with the teachings of Montano to achieve the goal of accurately managing the transmission of data in a communication system to prevent or avoid signal or data collision in the channel

and to carrying out desired communication between a controlling device and non-controlling devices.

However, both Haartsen and Montano fails to teach when the given radio communication device determines that setting of time slots should be changed, the given radio communication device increases the number of time slots by increasing a division number of the communication period on the wireless medium and selects a time slot which can be used at higher priority by the given radio communication device among the increased time slots.

But Cain teaches, when the given radio communication device determines that setting of time slots should be changed (communication demand) (pg. 3, pp0032, lines 1-4), the given radio communication device increases the number of time slots by increasing a division number of the communication period on the wireless medium (increase communication link demand, therefore increase time slots) (pg. 3, pp0032, pp0035) and selects a time slot which can be used at higher priority by the given radio communication device among the increased time slots (pg. 3, pp0038, pg. 6, pp0073, pp0049, and pp0101). Thus it would have been obvious to one of ordinary skill in the art at time the invention was made to combine the teachings of Haartsen and Montano with the teachings of Cain to achieve a communication system that can accurately and reliably provide communication access or channel assignment to efficiently transfer data information in a communication system.

As **to claims 35 and 44,** Haartsen teaches comprising a time slot identification information (slotted channel) sending step of sending identification information of the first time slot to one of the other radio communication devices (pg. 2, pp0018, lines 5-13), so that one of the other radio communication devices can select the second time slot based on the identification information of the first time slot (pg. 2, pp0018, lines 13-17).

As **to claims 36, 37, 45, and 46,** Haartsen teaches comprising a priority communication step of accessing the wireless medium in the first time slot, using a waiting time shorter and longer than those for the other radio communication devices (pg. 6, pp0049, lines 1-14).

As **to claims 38 and 47,** Haartsen in view of Montano and further in view of Cain teaches the limitations of claim 32 as discussed above.

Montano further teaches wherein in the time slot division step, the given radio communication device divides the communication period evenly (fig. 9, #940) into the plurality of time slots (col. 14, lines 45-55), the communication period having a common length of a common period which is determined among the radio communication devices (col. 15, lines 1-10). Thus it would have been obvious to one of ordinary skill in the art at time the invention was made to combine the teachings of Haartsen and Montano with the teachings of Cain to achieve the goal of accurately managing the transmission channel of a communication system to prevent or avoid signal collision in the channel.

As **to claims 39 and 48,** Haartsen in view of Montano and further in view of Cain teaches the limitations of claim 38 as discussed above. However, Montano further teach comprising a synchronization step of synchronizing with the other radio (non-coordinating) communication devices regarding the common period (col. 7, lines 52-55). Thus it would have been obvious to one of ordinary skill in the art at time the invention was made to combine the teachings of Haartsen and Montano with the teachings of Cain to adequately and efficiently sync wireless terminals over an allocated time in a communication system.

As **to claims 40 and 49,** Haartsen teaches comprising a time slot resetting (assigning) step of, when it is detected that the radio communication device which can use the second time slot at higher priority shuts down, resetting (assigning) the plurality of time slots so that the second time slot can be used by the radio communication devices (pg. 5, pp0042, lines 13-15).

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to OMONIYI A. OBAYANJU whose telephone number is (571)270-5885. The examiner can normally be reached on Mon - Fri, 7:30 - 5:00PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Vincent P. Harper can be reached on 571-272-7605. The

fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/O. A. O./
Examiner, Art Unit 2617

/VINCENT P. HARPER/
Supervisory Patent
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